WHAT IS CLAIMED IS:

- A process for the formation of a coating on at least a portion of a plastic substrate, characterized in that it is carried out at a temperature at least equal to the maximum temperature of use of the coated substrate minus 20°C.
- 2. The process as claimed in claim 1, characterized in that it employs a plasma CVD.
 - 3. The process as claimed in claim 1 or 2, characterized in that it is carried out at a temperature at least equal to the maximum temperature of use of the coated substrate.
 - 4. The process as claimed in one of the preceding claims, characterized in that it is carried out at a temperature below the temperature at which the plastic weakens.
 - 5. The process as claimed in one of the preceding claims, characterized in that it is carried out at a temperature as close as possible to the temperature at which the plastic weakens.
 - 6. The process as claimed in one of the preceding claims, characterized in that it employs cooling means.

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- 7. The process as claimed in one of the preceding claims, characterized in that the coating is formed in several stages.
- 35 8. The process as claimed in one of the preceding claims, characterized in that it comprises the operations consisting successively in
 - a) stabilizing the substrate to be coated at a temperature at least equal to its maximum

temperature of use minus 20°C,

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- b) forming the coating while taking care that the temperature of the substrate does not reach the temperature at which the plastic weakens,
- c) carrying out operations a) and b) again, if necessary, according to the thickness and other characteristics desired for the coating.
- 9. The process as claimed in one of the preceding claims, characterized in that the substrate is made of polycarbonate and in that the process is carried out at a temperature at least equal to 120°C.
- 15 10. A product comprising a plastic substrate provided with a coating formed as claimed in the process of one of claims 1 to 9, characterized in that the mean thickness of the coating is at least 2 μ m, preferably at least 4 μ m and in particular at least 6 μ m.
- 11. The application of the product as claimed in claim 10 as plastic component of the following types: vehicle body part, vent or the like, window, in particular for a ground, sea or air vehicle, in particular for a motor vehicle, window for the construction industry or street furniture, safety window for a helmet or window of the type requiring resistance to heat.